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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,237	07/31/2001	Ivan S. Salgo	10950203-1	2813

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
NATNITHITHADHA, NAVIN	
ART UNIT	**PAPER NUMBER**
3736	9

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/919,237	SALGO ET AL.	
	Examiner	Art Unit	
	Navin Natnithithadha	3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 1, 8, and 15 are objected to because of the following informalities:

Claim 1 defines a trigger generator in the preamble and then defines another trigger generator in the second limitation in lines 6-8. Is the second limitation a further limitation of the preamble or is a new element. It appears from page 7, lines 8-14, the second limitation is a further limitation of the preamble. If this is true, then the Examiner suggests amending "a trigger generator that" in line 6 to - - wherein said trigger generator - -. Claims 8 and 15 are objected for the same reasons. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Sontag et al, US 6,076,005 A.

In regards to claim 15, Sontag teaches a trigger generator (computer) 16 for supplying a trigger signal (on or off) 30 or 36 to a medical device 4, the trigger

generator 16 comprising: a respiratory signal device (respiratory monitor) 10 associated with the subject that generates a respiratory signal representing the flow of gas into and out of the subject's lungs during the subject's breathing cycle (see col. 5, lines 34-38); and wherein the trigger generator 16 calculates a differential of the respiratory signal (using a differential pressure pneumotachometer) and generates a trigger signal when the differential has a value representing a selected point in the subject's breathing cycle (see col. 5, line 36, and tables 1, 2, or 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sontag et al, US 6,076,005 A, in view of Hsieh et al, US 5,271,055 A.

In regards to claims 1, 4, 7, and 8, Sontag teaches a trigger generator (computer) 16 and method for supplying a trigger signal to a medical device or data acquisition system 4, comprising: a respiratory signal device (respiratory monitor or differential pressure pneumotachometer) 10 (see col. 5, lines 34-38); and wherein the trigger generator 6 generates a trigger signal (on or off) 30 or 36 when the respiratory signal has a value representing a selected point in the breathing cycle (see col. 5, lines 55-58, and col. 8, lines 22-24). Sontag does not disclose the trigger generator 16 integrates

the respiratory signal, i.e. a flow signal. However, it is well known in the art at the time the invention was made to integrate a flow signal from a pneumotachometer to obtain volume signals. For example, Binder teaches using differential pneumotachometer 6 to measure respiratory flow to generate flow signals and integrating the flow signals to obtain volume signals (see col. 4, line 67 to col. 5, line 3). Additionally, Sontag's device uses volume values to generate trigger signals (see col. 5, lines 57). Claims 4, 7, and 8 claims similar subject matter as claim 1 and are rejected as being taught by Sontag in view of Binder for the same reasons above.

As to claims 2, 3, 5, and 6, Binder teaches integrating the respiratory signal (integrator 23) and generating the integrated respiratory signal (integrated flow signal, i.e. volume signal) (see col. 4, line 67 to col. 5, line 3). Sontag teaches generating or receiving the trigger level (maximum and minimum lung volumes) representing a value (threshold) corresponding to a selected point in the subject's breathing cycle (see table 1); and comparing the integrated respiratory signal with a trigger level (see fig. 1); and generating the trigger signal when the integrated respiratory signal corresponds to the trigger value (see fig. 1).

As to claim 9, Sontag teaches the value representing a selected point in the breathing cycle is selected to correspond to a point in the cycle where the motion of the lungs is at a minimum (see col. 4, lines 25-31).

As to claims 10-12, Sontag teaches the medical data system is an ultrasound system, tomographic system, or a MRI system (see col. 5, line 19).

As to claim 13, Sontag teaches a trigger generator (computer) 16 comprising a processor configured to receive a respiratory signal and cause the output of the trigger signal 30 or 36 (see col. 5, lines 55-58, and col. 8, lines 22-24). Sontag does not teach the respiratory signal device outputs a digital value and integrating the respiratory signal. However, it is well known in the art at the time the invention was made to use digital processing of respiratory signals from a pneumotachometer. For example, Binder teaches a digital computer 116 for processing digital input signals from a differential pressure transducer 6 (see col. 10, line 16). Also, it is well known to integrate a respiratory signal, i.e. a flow signal to obtain volume signals as discussed in claim 1.

In regards to claim 14, Sontag teaches a trigger generator 16 for supplying a trigger signal to a medical device 4 based on a respiratory signal representing the flow of gas into and out of the subject's lungs during the subject's breathing cycle (see col. 5, lines 14-20 and 34-38), the trigger generator comprising: a trigger level source (algorithm) that outputs a trigger level representing the selected point in the subject's breathing cycle (see tables 1, 2, or 3); and a trigger level detector (algorithm) that compares the integrated respiratory signal and the trigger level and generates the trigger signal when the integrated respiratory signal enters into a predetermined relationship with the trigger level (see tables 1, 2, or 3). Sontag does not disclose the trigger generator 16 comprises an integrator that integrates the respiratory signal, i.e. a flow signal, and generates a corresponding integrated respiratory signal. However, it is well known in the art at the time the invention was made to integrate a flow signal from a

pneumotachometer to obtain volume signals. For example, Binder teaches using differential pneumotachometer 6 to measure respiratory flow to generate flow signals and an integrator 23 for integrating the flow signals to obtain volume signals (see col. 4, line 67 to col. 5, line 3). Additionally, Sontag's device uses volume values to generate trigger signals (see col. 5, lines 57).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Navin Natnithithadha whose telephone number is (703) 305-2445. The examiner can normally be reached on Monday-Friday, 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (703) 308-3130. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Navin Natnithithadha
Patent Examiner
GAU 3736
September 16, 2004

ROBERT L. NASSER
PRIMARY EXAMINER